WHAT IS CLAIMED IS:

1. A process for producing a high purity isoflavone enriched fraction from plant material, said process comprising the steps of:

(a) subjecting plant material to a primary chromatographic step to obtain an isoflavone enriched fraction; and

(b) subjecting the isoflavone enriched fraction of step (a) to a secondary chromatographic step, thereby producing a high purity isoflavone enriched fraction.

2. The process of claim 1, wherein said high purity isoflavone enriched fraction has a purity in a range of about 70% to about 100%.

3. The process of claim 2, wherein said high purity isoflavone enriched fraction has a purity in a range of about 70% to about 95%.

4. The process of claim 3, wherein said high purity isoflavone enriched fraction has a purity in a range of about 80% to about 95%.

5. The process of claim 4, wherein said high purity isoflavone enriched fraction has a purity of about 90%.

6. The process of claim 1, wherein said plant material is aqueous.

7. The process of claim 1, wherein said plant material is selected from a group consisting of soy molasses and soy whey.

8. The process of claim 1, wherein said plant material is heated.

9. The process of claim 8, wherein the temperature of said heat is in a range of about 65° C to about 95° C.

10. The process of claim 1, wherein prior to step (a), said plant material is passed through an ultrafiltration membrane which has a molecular weight cut-off range that produces a plant material permeate containing at least one isoflavone fraction.

11. The process of claim 10, wherein said ultrafiltration membrane has a nominal molecular weight cut-off in a range of about 66 to about 1,000,000.

12. The process of claim 11, wherein said molecular weight cut-off is about 100,000.

13. The process of claim 1 wherein said primary and said secondary chromatographic steps use an adsorptive material which is selected from the group consisting of an ionic resin and a non-ionic resin.

14. The process of claim 13, wherein said ionic resin is selected from the group consisting of ionic divinyl-benzene copolymer, ionic ethylvinylbenzene-divinyl-benzene copolymer, and ionic styrene-divinyl-benzene copolymer, ionic polystyrene.

15. The process of claim 13, wherein said non-ionic resin is selected from the group consisting of non-ionic divinyl-benzene copolymer, non-ionic ethylvinylbenzene-divinyl-benzene copolymer, non-ionic styrene-divinyl-benzene copolymer and non-ionic polystyrene.

16. The process of claim 1, wherein said primary chromatographic step is a continuous process, using a plurality of liquid chromatography columns wherein at least one of said columns is loading while another of at

least one of said columns is washing while another of at least one of said columns is eluting.

17. The process of claim 1, wherein said secondary chromatographic step is a continuous process, using a plurality of liquid chromatography columns wherein at least one of said columns is loading while another of at least one of said columns is washing while another of at least one of said columns is eluting.

18. The process of claim 1, wherein said secondary chromatographic step is followed by a process of evaporation.

19. The process of claim 18, wherein crystals are produced by said process of evaporation.

20. The process of claim 18, wherein said process of evaporation is followed by a process selected from the group consisting of decanting, hydrocloning, centrifuging and filtering.

21. The process of claim 18, wherein solids are produced by said process of evaporation.

22. The process of claim 21, wherein the range of said solids in said high purity isoflavone fraction is of about 1 to about 20%.

23. The process of claim 18, wherein said process of evaporation is followed by a process of reverse osmosis.

24. The process of claim 23, wherein said process of reverse osmosis is carried out at a temperature in a range of about 65°C to about 95°C.

25. The process of claim 23, wherein said process of reverse osmosis is followed by a process of concentration to produce an isoflavone enriched product.

26. The process of claim 25, wherein said isoflavone enriched product has an isoflavone concentration in a range of about 40% to about 90% on a dry weight basis.

27. The process of claim 25, wherein said isoflavone enriched product has an isoflavone concentration in a range of about 90% to about 100% on a dry weight basis.

28. The process of claim 1, wherein said high purity isoflavone enriched fraction is dried.

29. The process of claim 28, wherein said drying is carried out by a process selected from the group consisting of spray drying, vacuum belt drying and freeze drying.

30. The process of claim 28, wherein said drying is followed by a process selected from the group consisting of centrifuging and filtering.

31. The process of claim 1, wherein said high purity isoflavone enriched fraction is cooled.

32. The process of claim 31, wherein the temperature of said cooling is in a range of about 4°C to about 45°C.

33. The process of claim 32, wherein said high purity isoflavone is centrifuged.

34. The process of claim 33, wherein said centrifugation is at about 900 x g.

35. A product comprising the high purity isoflavone enriched fraction of claim 1.